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PEABODY JOURNAL OF EDUCATION

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PREDICTING COLLEGE SUCCESS UPON THE BASIS OF SENIOR HIGH SCHOOL RECORDS[1]

H. L. GARRETT
Louisiana State University

The purpose of this study is to compare, as bases for predicting college success, records of students in the three years of senior high school with their records for all four years of high school. It deals with these questions: Does the institution of higher learning, in order to have a valid basis for predicting college achievement of students at the time of entrance, need to have the record for all four years of high school? Is this complete accounting necessary particularly from school systems having the junior-senior type of high school organization? Are certain subjects, especially those taught in junior high school, of outstanding significance in predicting college achievement?

The question of whether the junior high school should be relieved of responsibility for college admission requirements has been more and more discussed as the junior high school movement has developed. One outcome of this discussion is noted in the action of certain regional associations authorizing member institutions, if they see fit, to admit students upon the basis of the units earned during the three years of senior high school. But not many colleges and universities have taken advantage of this option. Few investigations previously reported have sought to determine the validity of basing entrance requirements upon the senior-high-school record.

This study deals with college success in the Louisiana State University of students who graduated from the Baton Rouge Senior High School after taking the first year of high school work in the local junior high school. Five graduating classes from the senior high school, 1927 to 1931 inclusive, have had opportunity of spending at least one year in the University. These classes included approximately 600 graduates of whom nearly 400 entered the University. Of the latter group, 272 students who had passed through the

[1]From a report prepared for the Committee on Junior High Schools of the Southern Commission on Accredited Secondary Schools.

Baton Rouge Junior High School established college records sufficient to warrant their inclusion in the investigation. Of the 272 students, 180 had records for two years in college, and 49 students had records for four years. These students entered all schools and colleges in the University, but no attempt has been made to consider college groups.

The Baton Rouge Junior High School was established about ten years ago and is the only junior high school of the reorganized type in the state. With respect to physical plant, organization, and administration, the junior high school is entirely independent of the senior high school, which is located in another part of the city. As to academic and professional qualifications, the teaching staff of the junior high school compares favorably with that of the senior high school. The junior high school, though its program includes grades seven and eight only, is typical of the junior high school movement as regards offering the usual exploratory and reorganized courses and providing for guidance and extra-curriculum activities. Few formal requirements, local or state, have to be complied with by the junior high school.

The Baton Rouge Senior High School emphasizes for all students the college preparatory courses. With two exceptions, all students included in this investigation had foreign language in senior high school. Practically all took advanced algebra. All had two or three units of social studies in addition to at least one unit in the junior high school. In addition to general science and biology in junior high school, all students took either physics or chemistry in senior high school.

Both the junior and senior high schools use the percentage system of marking, with 75 as the passing grade. Most students showed consistently decreasing grades throughout the senior high school years, the sharpest decline occurring in the last year of high school.

Analysis of College Achievement in the Freshman Year in Relation to Scholastic Average in High School

Is a scholastic average of 80, for example, to be regarded as more significant when it is based upon all four years of high school than an average of 80 based upon the three years of senior high school? To answer this question, Table I is presented. This table shows relationship between college success and different levels of high school achievement as indicated by the averages of the marks received in high school subjects. The table indicates what manner of predictions of college success the Louisiana State University could make for graduates of the Baton Rouge High School. For purposes of comparison, the table shows separately data for the last two years of high school and for the senior year alone. In constructing the table, college achievement was arbitrarily defined in terms of point-hour-ratio, which represents the ratio of the number of quality credits, or honor points, earned to the

number of hours of work taken. The marking system employed by the University allows three quality credits for A, two for B, one for C, and none for marks lower than C. No negative values are used for low or failing grades. In the table, "A" represents point-hour-ratios of 2.80 to 3.00; "B," 2.00 to 2.79; "C," 1.00 to 1.99; "D," .60 to .99; "E," .20 to .59; and "F," 0 to .19.

TABLE I

ANALYSIS OF COLLEGE ACHIEVEMENT IN THE FRESHMAN YEAR IN RELATION TO HIGH SCHOOL AVERAGE

(1) Basis of Average	(2) Number of Students	(3) Quality of Freshman Record: A	B	C	D	E	F
A. High School Average of 75-76* (Below 77):							
Years 1-4 (Jr.-Sr. H. S.)	2	0	0	0	0	0	2
Years 2-4 (Sr. H. S.)	4	0	0	0	1	0	3
Years 3-4	14	0	0	1	3	2	8
Year 4	33	0	0	6	6	8	13
B. High School Average of 75-80 (Below 81):							
Years 1-4	104	0	1	28	25	30	20
Years 2-4	108	0	1	28	26	32	21
Years 3-4	128	0	2	39	30	36	21
Year 4	148	0	1	48	41	37	21
C. High School Average of 81-90:							
Years 1-4	147	0	23	82	28	12	2
Years 2-4	143	0	22	83	27	10	1
Years 3-4	123	0	21	72	23	6	1
Year 4	107	0	25	64	12	5	1
D. High School Average of 91-100:							
Years 1-4	21	5	12	3	0	1	0
Years 2-4	21	5	13	2	0	1	0
Years 3-4	21	5	13	2	0	1	0
Year 4	17	5	10	1	0	1	0

Table I, Section A, presents comparative data for students having a general average in high school of less than 77. On the basis of the four-year average, only two students out of the 272 considered in this investigation had averages below 77, both of them making "F" records in the freshman year in the University. The average for the three years of senior high school placed four students below 77. Of these, three made "F" records, and one, a "D" record in the freshman year. The average for the last two years of high school placed 14 students below 77. The freshman records of the 14 students showed one "C" and 10 "E" or "F" records. The average for senior year alone placed 33 students below 77, which is in keeping with the pronounced tendency for marks in the Baton Rouge Senior High School to

*The table should be read thus: On the basis of all four years of high school (Yrs. 1-4), two of the 272 students had averages below 77, both of whom made "F" records in the freshman year in the University. On the basis of the three years of senior high school (Yrs. 2-4), four of the 272 students had averages below 77. Three of them made "F" records, and one, a "D" record in the freshman year.

fall off sharply in the final year. Only six of the 33 students had freshman records as high as "C," but 21 had records of "E" or "F." Evidently a college record of "C" is not to be expected of any graduate of the Baton Rouge Senior High School whose high school average is below 77 on the four-year or the three-year basis. The showing of the 33 students whose senior-year averages were less than 77 is probably most significant for purposes of prediction. No advantage can be claimed for having the record of all four years.

Section B of Table I shows a similar analysis of college performance in the freshman year of all students whose high school averages were below 81. The outstanding features of this section are (1) close agreement at all levels of college achievement between four-year and three-year high school averages, and (2) uniformity in the "E" and "F" columns with respect to all bases of averaging high school marks. The average for the last year of high school shows large numbers of students with "C" and "D" records in the freshman year, which may be explained by the sharp decline in marks for the senior year. Apparently the University could predict college achievement as accurately for low-ranking students from an average of the work done in the senior high school as on any other basis.

Table I, Section C, presents comparative data for high school averages that were above 80 but below 91. The high school achievement of this group might be described as average to good. The four-year average placed 147 out of 272 students in this group as compared to 143 for the three-year average. No student in this group had a record of "A" in the freshman year in college. Striking agreement is shown at all levels of college achievement and for high school averages computed on the various bases. The four-year average placed 14 students at "E" or "F," and the senior high school average placed 11 in these columns.

Table I, Section D, presents data for students who had high school averages of 91 or higher. The chief deviation to be noted in this section is in the showing for the last year of high school, which placed only 17 students at the highest level. Results for four-year and three-year averages are almost identical. For the best students from the Baton Rouge Senior High School the average for the last two or three years of high school is as good an index to college success as the four-year average.

The foregoing analysis of the relationship between high school and college records clearly shows that the average for the three years of senior high school is fully as reliable as the four-year average in predicting success in the University of graduates of the Baton Rouge High School.

Correlation Between College Achievement and General High School Average

In addition to the comparison of gross achievement in high school and college, the correlation method has been employed in this investigation to determine the predictive value of the entire high school record as compared to the senior high school record. By means of coefficients of correlation (product moment) between college achievement, expressed as Point-Hour-Ratio, and high school average, computed on various bases, a number of comparisons were made. The predictive significance of averages based upon all four years, upon the three years of senior high school, upon the last two years, and also upon each individual year of high school, has been considered. The predictive value of records in specific high school subjects has been investigated, especially in relation to college success in the same or in related subjects. College achievement of the 272 students who had records for the freshman year, of the 180 students who had records for two years, and of the 49 students who had records for four years in the University, has been studied by the correlation method.

Table II shows correlations between achievement in the University and high school average for graduates of the Baton Rouge High School.

TABLE II

Correlation Between College Achievement and General High School Average*

General Average in High School Based On:	College Achievement Expressed as Point-Hour-Ratio FOR 272 Students in the Fresh. Year		FOR 180 Students Who had 2 Years in Col.		FOR 49 Students who had 4 Yrs. in the Univ.	
	r	P. E.r	r	P. E.r	r	P. E.r
Years 1-4 (Jr.-Sr. H. S.)	.722	.020	.788	.020	.745	.043
Years 2-4 (Sr. H. S.)	.712	.020	.775	.020	.781	.037
Years 3-4	.723	.020	.767	.020	.716	.046
Year 4 alone	.726	.020	.777	.020	.774	.037
Year 3 alone	.693	.021	.739	.023	.713	.046
Year 2 alone	.651	.023	.691	.026	.651	.054
Year 1 alone	.605	.026	.685	.027	.695	.050

Table II reveals for all three groups negligible differences between the predictive value of the four-year average and that of the senior high school average. Each difference between pairs of coefficients is less than the probable error of either coefficient. This difference between pairs of coefficients

*The table should be read thus: The coefficient of correlation between four-year high school average and college achievement was, for 272 students, .722, with a probable error of .020; for 180 students, .788, with a probable error of .020; and for 49 students, .745, with a probable error of .043.

is also less than the probable error of their difference, which means that the coefficients are practically equivalent for purposes of predicting success in college. A more striking feature of the table is the high coefficients of correlation found for the average of the last two years of high school and the average for the last year alone. This holds for all three groups of students, for the small group of 49 students as well as for the large group of 272 students. In spite of the slump in marks in the senior year in high school, it appears that the University could take the average of the last year in the Baton Rouge High School as a valid basis for predicting college achievement. This feature of the correlations is in general agreement with the data shown in Table I.

Table II shows that the predictive significance of averages based on the individual years in high school increases in each year from the first to the fourth. This holds for all groups except the small group of 49 students for whom the year in junior high school yielded a higher correlation than the second year in high school.

Table III presents data to show how well records in specific high school subjects predict college success in the freshman year. It also shows whether the four-year average in a subject is any more significant than the average in the subject for the three years of senior high school. Practically all the 272 students had taken courses in both junior and senior high school in English, history, mathematics, and science. Foreign language was taken in the senior high school only, but is included for purposes of comparison. In the case of the other four subjects, correlations were computed between total college achievement in the freshman year and (1) the average of high school marks in all courses in the subject and (2) the average of marks in senior high school courses.

TABLE III

CORRELATION BETWEEN TOTAL COLLEGE ACHIEVEMENT IN THE FRESHMAN YEAR AND HIGH SCHOOL AVERAGE IN SPECIFIC SUBJECTS

Averages in High School Subject	College Achievement Expressed as Point-Hour-Ratio	
	r	P. E.r
English 1-4 (Jr.-Sr. H. S.)	.695	.021
English 2-4 (Sr. H. S.)	.694	.021
Mathematics 1-4	.676	.022
Mathematics 2-4	.672	.022
Soc. Studies 1-4	.690	.021
Soc. Studies 2-4	.650	.023
Science 1-4	.668	.023
Science 2-4	.597	.026
For. Language (Sr. H. S. only)	.557	.028

The outstanding features of Table III are (1) the high correlation between average in high school English and freshman success, which approaches in magnitude the correlations involving the average in all subjects,

as shown in Table II; and (2) the close agreement in the case of English, mathematics, and the social studies between correlations based upon four-year and three-year averages in high school courses. Though the four-year record for the social studies shows a higher correlation, the difference between the coefficients is not significant. The correlations involving high school science are evidently influenced by the fact that the higher coefficient, .668, is based upon marks in at least two high school courses, whereas the lower coefficient, .597, is based upon a single mark in chemistry or physics, the only science courses offered in the senior high school.

The coefficient of correlation of .557 for foreign language in the senior high school is based upon marks in Latin, French, and Spanish. Table IV shows comparative correlations for the Latin, French, and Spanish groups. In each case the average in the foreign language was correlated with total freshman achievement. The table shows also the correlations between high school averages in the three languages and college marks in freshman English. Only two of the 272 students had not had at least two years of one foreign language. Very few had taken more than one foreign language in high school. Eighty-seven students took Latin in senior high school; 99 took French; 85 took Spanish.

TABLE IV

CORRELATION BETWEEN HIGH SCHOOL AVERAGES IN LATIN, FRENCH, AND SPANISH AND COLLEGE ACHIEVEMENT IN THE FRESHMAN YEAR AND IN FRESHMAN ENGLISH

Foreign Language	Total Freshman Achievement		College Marks in Freshman English	
	r	P. E.r	r	P. E.r
Latin (N, 87)	.600	.047	.434	.059
French (N, 99)	.647	.040	.491	.051
Spanish (N, 85)	.394	.060	.416	.060

Though French shows somewhat higher correlation with freshman success, the difference between the French and Latin coefficients is not reliable. The difference between the Spanish coefficient and either the Latin or the French coefficient tends to be reliable. For students from the Baton Rouge High School, Latin and French marks have practically equivalent predictive value, but both of these languages are inferior to English as a basis for predicting college success in general (Table III). Spanish, however, stands far below either French or Latin in predictive significance. It is evidently the influence of the Spanish group that causes the low correlation found for all foreign languages, as shown in Table III. The size of the groups taking the different languages is a factor that may influence the correlations.

Table IV shows negligible relationship between averages in the high school foreign languages and success in freshman English in the University. Low reliability of marks both in high school and in college may influence

the correlations. Especially may idiosyncrasies in the marks assigned by individual instructors affect these correlations.

Table V presents data which have to do with the comparative records in high school and in college of the three foreign language groups. The table represents an attempt to explain the discrepancies in the coefficients of correlation for the three groups, especially the poor showing of the Spanish group.

TABLE V

COMPARISON OF HIGH SCHOOL AND COLLEGE RECORDS OF THREE FOREIGN LANGUAGE GROUPS*

Foreign Language Group	Junior High School (1st Yr. H. S.)		Senior High School (Years 2-4 in H. S.)		Freshman Year in College (Pt.- Hr.-Ra.)	
	Mean	S. D.	Mean	S. D.	Mean	S. D.
Latin (N, 87).....	84.36	4.84	84.12	4.98	1.36	0.76
French (N, 99).....	83.74	4.34	84.10	4.24	1.26	0.72
Spanish (N, 85).....	82.02	3.20	81.62	3.68	0.95	0.64

Table V reveals consistent trends in the records of the three groups throughout the junior high school, senior high school, and freshman college periods. The Latin and French groups left the junior high school with general averages in all subjects of 84.36 and 83.74, respectively, as compared to an average of 82.02 for the Spanish group. It may be shown that the difference between the average for the Spanish group and the average of either of the other groups is significant, which indicates that the Spanish group was definitely inferior in scholastic achievement while in the junior high school. The differences between the Latin and French groups are not reliable, though consistent, throughout the three stages of their educational careers. But the superiority of these groups to the Spanish group is maintained at all stages. Evidently foreign language in senior high school produced little if any change in the three groups under consideration with respect to probable fitness to undertake college work.

Another phase of the present investigation relates to whether the four-year record in a specific high school subject predicts more accurately than the senior high school record college achievement in the same or in a closely related subject. Table VI shows correlations between freshman achievement in college English, history, and mathematics and high school averages, three-year and four-year, in the corresponding subjects. Of the 272 students considered in this study, 266 had usable records in freshman English in the University; 163 students took a course in history in the freshman year; and

*The table should be read thus: The 87 students who took Latin in senior high school made a general average in junior high school (Yr. 1 in H. S.) of 84.36 with a standard deviation of 4.84; the general average of these same students during the three years of senior high school was 84.12 with a standard deviation of 4.98. During the freshman year in college they showed a point-hour-ratio of 1.36, which is somewhat better than a "C" record.

200 students took mathematics in the freshman year. College marks were converted according to a scale that assigned numerical values as follows: A, 5; B, 4; C, 3; D, 2; E, 1; F, 0. By considering the two semesters of the freshman year, it was possible to have a series of eleven steps with values from 0 to 10.

TABLE VI

CORRELATION BETWEEN HIGH SCHOOL AVERAGE IN A SPECIFIC SUBJECT AND COLLEGE MARKS IN THE SAME SUBJECT

High School Average in the Same Subject	College Marks in Freshman Subjects					
	English N, 266		History N, 163		Mathematics N, 200	
	r	P. E.r	r	P. E.r	r	P. E.r
Years 1-4 (Jr.-Sr. H. S.)	.608	.026	.666	.030	.497	.036
Years 2-4 (Sr. H. S.)	.635	.025	.660	.030	.504	.036

Table VI shows conclusively that, for students from the Baton Rouge High School, predictions of college success in freshman English, history, and mathematics can be made just as accurately upon the basis of the three years of senior high school as they can upon the basis of all four years of high school work in the corresponding subjects. It is to be noted that the correlations for English and history are comparable to those shown in Table III for these subjects in relation to college success in all subjects. Since the correlation shown for mathematics is much lower than that shown in Table III, the question may be raised with respect to the adjustment of college courses in freshman mathematics to the high school courses in mathematics. This adjustment may relate to content, methods, or marking practices.

This investigation has shown that for one junior-senior high school system in relation to a single higher institution nothing is added to the predictive value of the high school records by having an accounting for all four years of high school. This is revealed when gross comparisons of scholastic achievement in high school and in college are made. It is also shown when the correlation method is applied to the data. Similar results are found when relationships between specific high school subjects and college achievement, in all subjects and in corresponding subjects, are considered. Marked difference is found between the predictive value of foreign languages as a group and other academic subjects. Since many factors enter into high school and college conditions to modify such relationships, it is highly desirable that other investigations be made of the comparative predictive value of four-year and three-year records of high school work. Considering the evidence now available, it is safe to say that if the junior high school record is ever proved to have genuine significance for the college, its value will be expressed in other terms than units earned and marks received.

CREDIT FOR WORK DONE BY EXTENSION

J. R. ROBINSON
George Peabody College for Teachers

The amount of credit that should be accepted toward a degree for work done by correspondence or by extension is a matter of policy that should be determined by each college faculty after a consideration of the issues involved, and in light of the specific program of the particular college. Some consideration may need to be given also to the practicability of denying credit when other institutions are allowing it, or to the impracticability of allowing more than other similar institutions. There is almost every variation in practice. The range in amount of such credit accepted is from no credit at all to three years of credit toward a bachelor's degree.[1] Some institutions will accept credit earned in class-study groups off the campus, but will not accept work completed by correspondence. Most colleges allow undergraduate credit only, but many allow graduate credit also.[2] Such credit, however, is usually confined to work done in class-study groups and is seldom allowed for courses completed by correspondence.[3] A few institutions allow extension credit toward the master's degree, but not toward the doctorate; others recognize such credit for the doctorate, but not for the master's degree. Some colleges allow such work to shorten the minimum period of residence study.[4] Frequently colleges will accept extension or correspondence credit toward a degree, but will not accept it from all of the institutions from which they will accept credit earned in residence.[5] Some colleges will accept their own extra-mural credit, but none from other institutions. It is accepted sometimes from none but members of the National University Extension Association; sometimes only from colleges which are members of a regional association; or from the colleges on the approved list of the Association of American Universities.

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[1]Breckenridge, Garrett, "Standardizing Agencies" *National University Extension Association, Proceedings* 15, (1932): 125-126; Linton, Clarence, *A Study of Some Problems Arising in the Admission of Students as Candidates for Professional Degrees in Education*, Teachers College Contributions to Education. No. 285, (1927). pp. 39-40; Patrick, Wellington, *A Comparison of Residence and Extension Teaching*, Bulletin, University of Kentucky, 1927, 33-35, 37.

Harvard offers the degree of Associate in Arts to students who have completed by extension courses equal in number and standard to the courses required of a resident student for the degree of bachelor of arts. No entrance examination is required of candidates for this degree. Apparently no such credit can be transferred from other institutions. *Official Register of Harvard University*, Vol. 29, No. 43, (1932), p. 636.

[2]Henderson, W. D., "Report on University Extension Credit Courses," *N. U. E. A. Proceedings*, 1924: 115-118; Powers, Alfred, "Graduate Work in Extension," *N. U. E. A. Proceedings*, 1929: 162-176.

[3]Bittner, W. S., and Mallory, H. F., *University Teaching by Mail*, 47-48.

[4]Henderson, *op. cit.*, pp. 100-107.

[5]Breckenridge, *op. cit.*

The word extension is used to designate a large number of activities carried on by institutions in their efforts to give instruction in places other than college classrooms, and to people who are not regularly enrolled as resident students. In most of these activities the idea of credit does not appear. When the term is applied to instruction involving credit, it includes two forms: instruction given to class groups, and instruction given by correspondence. There seems to be no misunderstanding in regard to the meaning of correspondence instruction, but there is a lack of agreement in regard to the conditions under which class instruction becomes extension instead of residence.[6] Sometimes the term extension is applied to late afternoon, evening and Saturday classes taught on the campus, but very often these are regarded as residence classes and are not differentiated in any way from the other classes of the institution. It is argued that the mere location of the class meeting should not determine whether it is extension or residence, that a class conducted across the street from the campus could have all of the advantages of a class conducted on the campus. If this is admitted, then, logically, a class meeting one block away, or, with automobile transportation, a few miles away, could be essentially residence work and should not be designated extension. Many institutions situated in urban communities have classroom buildings located in different parts of the city. Sometimes class instruction given at great distances from the campus is called resident work by the institution giving it.[7]

In addition to the definitions of extension based on the time and on the place of the class meeting definitions have been proposed based on differences from regular class work in admission of students, in the administrative organization, and in the time the student has available for study. Students may be admitted to extension classes without meeting the same entrance requirements exacted of resident students. The work is administered by the division of extension instead of the administrative unit for resident students. Extension students usually devote the major portion of their time to some other occupation, while resident students have practically their entire time available for the business of getting an education.[8]

Whenever the question arises of allowing credit toward a degree for work done by correspondence or in extension classes, a question is usually raised in regard to the relative values of residence and extension work. If the degree were awarded only after rigid, searching, comprehensive examinations, given at the completion of the student's curriculum, perhaps it would make little difference where, or in what manner, his information had been

[6]Henderson, *op. cit.*, 63; Peterson, Elmore and Lighty, W. H., "A Definition of Extension for Credit Purposes," *N. U. E. A., Proceedings*, 15 (1932): 123-124; Vogt, P. L., *idem.*, 125; Zook, G. F., *N. C. A. Quarterly* 4 (December, 1929): 303.

[7]Vogt, *op. cit.*

[8]Vogt, *op. cit.*; Zook, *op. cit.*

acquired. But under our credit system the worth of each unit of credit is important. If there is no question of transfer and the credit has been earned in the division of extension of the institution at which the student expects to become a candidate for a degree, something is already known about the character of instruction that has been given. The instructor is known. The devices are known that have been used in an attempt to safeguard the character of the work—such as the number of hours of class instruction, the requirement of a course examination, term reports, etc. If the credit is transferred from another institution, it is important to know whether or not these or similar safeguards have been observed. The National University Extension Association has adopted standards for extension work.[9] Its members have done much toward improving extension instruction.[10] Probably most institutions that are not members of the association and that give any considerable amount of work by extension observe the general standards of the association.[11] Instructors and colleges are sometimes charged with having a higher standard of achievement for resident work and a decidedly lower standard for work done by extension.[12] Achievement, after all, cannot be measured by standards. These are merely safeguards to make good work possible. They cannot guarantee quality or quantity either on or off the campus. Some studies have been made attempting to compare the results of extension instruction with resident instruction.[13] As yet only tentative conclusions can be drawn, but it seems that when extension work is properly given, extension students compare favorably in ability, as measured by college

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[9]For standards governing extension class-instruction, see Henderson, *op. cit.*, p. 124.

For standards governing instruction by correspondence, see Mallory, H. F., "Report of Committee on Correspondence Study Standards," *N. U. E. A. Proceedings*, 14 (1931): 98-99; Bittner and Mallory, *op. cit.*, 113-130; 277-278.

The American Association of Teachers Colleges has also included in its general standards for member institutions some regulations governing work conducted by extension. "Standards for Accrediting Teachers Colleges and Normal Schools," *A. A. T. C., Proceedings*, 1933: 20-21.

[10]Most of the resources of the extension divisions of these institutions have been directed toward non-credit adult education.

[11]According to Bittner and Mallory many such institutions do not have a satisfactory organization and administration of extension activities, *op. cit.*, 117.

[12]There is some evidence that, when colleges over a wide area are included, the standards of instruction are lower than for that given in residence. Zook, G. F., "Evening and Other Part-Time Education" (A Committee Report), *N. C. A. Quarterly*, 4, (Sept. 1929): 237-242; see also Zeigel, W. H., *The Relation of Extra-mural Study to Residence Enrollment and Scholastic Standing*, Contribution to Education, No. 12, (1924) Peabody College; and, Patrick, *op. cit.*

[13]Bittner and Mallory, *op. cit.*, 131-166; 307-322; Patrick, *op. cit.*; Price, R. R., "The Comparative Scholastic Achievement of Resident and Extension Students," *N. U. E. A., Proceedings*, 1929; 51-64; Price, R. R., "The College Ability of Residence and Extension Students," *N. U. E. A. Proceedings*, 1931: 131-152; Sorensen, Herbert, "College Aptitude and Classroom Achievement of University Extension Students," *N. U. E. A., Proceedings*, 1932: 27-38; Sorensen, H., "The Abilities of Extension Students," *N. U. E. A., Proceedings*, 1933: 35-40; Zeigel, *op. cit.*

aptitude tests, and in achievement, as measured by instructor's grades, with the regular students on the college campus.[14]

Sometimes another question is raised. Are there values that should be considered aside from academic achievement in courses? Is there something needed in one's collegiate training that can best be acquired by living in the academic community, by associating with students and faculty, by participating in college activities, by being subjected to the influence of the tone, atmosphere, and traditions of the college? On the other hand, are there values similar to these than can best be obtained in the more independent and the more largely self-directed study provided by extension? These questions are hard to answer. The qualities that the questioners have in mind are difficult to define and still more difficult to measure. Each faculty member will answer them in the light of his own philosophy of education and in the light of his own past experiences.

It has been urged that the question of how much extension credit to allow toward a degree is relatively unimportant since the great majority of extension students take only a few courses, and not many of those apply their credits toward graduation.[15] Extension directors and others have advocated no limit at all except the negative limitation of the residence requirement at the college which is usually thirty-six weeks. They say that a limit of extension credit casts aspersions on such instruction by implying that it is not as worth while as residence instruction. However, no one seems to advocate that extension study should entirely replace resident study. Every one seems

[14]Patrick investigated the amount of time spent in study, per semester hour of credit, by extension students and resident students in fifteen institutions, members of the N. U. E. A. His data showed that resident students studied a great deal more, per semester hour of credit, than did students in correspondence courses or in extension study classes, and that students in correspondence courses nearly always studied more than those in extension classes. *Op. cit.*, 57-66.

Sorensen shows that extension students are equal to resident freshmen in ability, and that they are superior to resident students in their scholastic ratings. He concludes that, though extension students do not study as much as resident students, they "accomplish as much or more, due to equal ability, seasoned maturity, greater interest, more effective modes of study, and much keener incentives and motives." *N. U. E. A., Proceedings*, 1933: 35-40.

According to Zeigel, "extra-mural students are graded too high in extra-mural courses, and probably in residence courses." He attributes this to age and advancement, an older and more assertive student receiving a higher mark for less achievement. *Op. cit.*, 231-233.

[15]"The great majority of the hundreds of home study students in university credit courses take only three or four courses in all. Those who complete their courses average but two or three courses each. Not many credits are actually put on the registrar's records. In a large number of cases students do not apply their credits to graduation; and those who do, average for the whole country probably less than two semester hours. . . . The negative problem of safeguarding accrediting is not impressive. Certainly the academic fear of assaults on standards is not justified by the figures.

If, as sometimes happens, able students complete by mail a fourth, a third, or a half of the requirements for a degree, such exceptional cases present not a real problem but rather a challenge to admiration and a promise of raising standards." Bittner and Mallory, *op. cit.*, 146.

to agree that the campus should have a place in the training of the student. Leaders in extension instruction have maintained that extension courses are most valuable when taken in conjunction with a residence program.[16] The entire educational development and training of the student should be considered, not with the idea of limiting extension but in an effort to include the essential elements of a well-rounded college education. Administrative convenience may demand a definite limitation even though there is high regard for the work of the extension department.

The Southern Association, the North Central Association, and the American Association of Teachers Colleges allow one fourth of the work for the bachelor's degree to be taken by correspondence study or in extension classes.[17] The National University Extension Association would allow at least one-half to be taken by extension. Others have made definite recommendations. Probably no single policy would fit the needs of all types of institutions. The following observations, however, are believed to be applicable in the light of the studies made and in the light of college practices:

Graduate credit should not be allowed for correspondence study. A limited amount of graduate credit may be allowed for work in study center extension classes, but this should not reduce the minimum period of residence study.

It would generally be considered radical to allow three-fourths of the work of the bachelor's degree to be completed by extension. It would be considered extremely liberal to allow as much as one-half, and conservative to allow one-fourth. To allow less than one-fourth would expose one to the charge of being ultra conservative.

It should be kept in mind that extension instruction is adult instruction, and that the large group of youthful undergraduates will not be affected by

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[16] "But the individual benefit idea is limited in that correspondence courses are of most value to the individual when taken in conjunction with a residence program. They are not a substitute for education. . . . They serve individual purposes best when they fit into a long time, socialized program of education. . . .

Education as a whole is . . . essentially team work. The combination of correspondence student and instructor is hardly a large enough team to do the work of socialized education." Bittner and Mallory, 180-181.

[17] For recommendations in regard to the amounts to be accepted, and actions of regional accrediting associations, see Hooper, W. D., "Report of the Commission on Institutions of Higher Education." Southern Association, *Proceedings*, 1933, 56; Zook, G. F., "Evening and Other Part-Time Education (A Committee Report)," *North Central Association Quarterly*, IV (1929), 242; Price, R. R., "Report of the Committee on North Central Association Regulations," *National University Extension Association Proceedings*, 14 (1931), 94-99; Reed, A. A., *N. U. E. A., Proceedings*, 15, (1932), 127; "Standards for Accrediting Teachers Colleges and Normal Schools," *American Association of Teachers Colleges, Proceedings*, 1933: 20-21; Hager, W. E. (Chairman) "Revised Statements on Common Problems of Teacher Training," Mimeographed Report of Committee of Interstate Conference on Common Problems of Teacher Education (1930), pp. 15, 18, 19; Linton, Clarence, *A Study of Some Problems Arising in the Admission of Students as Candidates for Professional Degrees in Education*, Teachers College Contributions to Education, No. 285, (1927), p. 120.

any action the college may take. The ones concerned are men and women engaged in various occupations, most of them in teaching. They are accustomed to meeting responsibilities and doing things on their own initiative.

Whatever the policy that may be adopted, no such credit should be accepted by transfer except from recognized and accredited colleges. If there is any hesitancy in the acceptance of credit for residence work from a particular college, its extension credit should not be accepted at all. Commercial correspondence schools often offer excellent instruction, but they have not been inspected, have made no reports, and are vouched for by no disinterested agency of higher education. Some of these schools are probably of questionable character. Their field of usefulness should be confined to non-credit instruction.

ALARMS AND MONITIONS
IS THE SCHOOL LIBRARY A FINANCIAL MENACE?

RUBY ETHEL CUNDIFF
George Peabody College for Teachers

The value of the reading habit cannot be measured in terms of dollars and cents, and yet the *Library Journal* for January 1, 1934, carried an article entitled "The Taxpayer and Reading for Young People," in which its authors, Miss Charlotte H. Clark and Miss Louise P. Latimer, tried to show that library service to schools can be carried on less expensively by the public library in the form of classroom libraries than it can be by centralized libraries in the schools.

Costs are compared but service is supposedly equal regardless of opportunities provided. Comparison of service under the two systems has not been made, although there has been much conjecture on the subject. A study of both sides of the matter would doubtless yield much of value to librarians and schoolmen alike.

The subtitle of the article is, "Would a 'Library in Every School' Justify the Cost?" Yet when the article is half finished there occurs this statement:

> The cost of service in each case includes elementary and junior high schools only, since the schools in Washington, as elsewhere, have libraries in high schools.

This statement is not referred to in any way in the article, but must be kept in mind, for it is most important. In disregard of this statement that there are libraries in high schools, many quotations are given from books which include costs for school libraries as a whole, such as Fargo, L. F., "The Library in the School," and Johnson, B. L., "The Secondary School Library."

The costs include furniture and equipment for school libraries in schools as compared with that of the Schools Division of the Public Library utterly ignoring the fact that there must be furniture and equipment in the rooms in which the books are used in each school when there is no library in the school.

According to the authors:

> To look upon a room, without a trained librarian, as a library because it contains books is as reasonable as to count a classroom with desks and a blackboard, but without a trained teacher, a school. We shall not progress far in children's reading until the importance of the trained librarian is understood and accepted.

This statement, in itself, is the proof of the inadequacy of the methods described since according to this plan, books though chosen by trained librarians are "chosen to fit the grade and intelligence rating of the pupils as reported by teachers." They are administered also by teachers. They include "one book for each child in the classroom" and "are sent for a two months' period." In spite of these facts the authors state that "it seems to be true

that a person trained as a teacher and having taught for a term of years is not as effective in a library as a trained librarian." Surely the classroom is for the child, his library in the above instance since he has no other, and the teacher under this plan stands for him as librarian.

It can hardly be considered proof of the failure of a plan that there are violations of its standards. Though the authors cite the inclusion of *Congressional Records* by some schools to reach their quota, it is distinctly stated in the standards of the Southern Association of Colleges and Secondary Schools (to quote but one) that the book collection requirements are

> Well-selected books, exclusive of government documents and textbooks, to meet the needs for reference, supplementary reading, and cultural and inspirational reading.

Again, quoting from the article by Misses Clark and Latimer:

> The root difficulty in the whole situation is that school men not mindful of what librarianship involves, and what is necessary to make a library effective, are likely to be satisfied with untrained librarians and such aggregations of books as various studies indicate are now prevalent in school libraries.

According to B. Lamar Johnson in his study, "The Secondary School Library," p. 105:

> Many schools have full-time librarians who are college graduates and have had professional training in library science. Most of the smaller schools, however, employ teacher-librarians. In a number of these schools, the teacher-librarians have had library training and are given teaching loads so reduced that they may devote a major portion of their time to library work.

Also, a study of the requirements of the regional associations such as The Southern Association of Colleges and Secondary Schools, The North Central Association of Colleges and Secondary Schools, and other similar associations shows that they state without exception that the librarian shall have professional training. The amount of training varies in the different regions. The statements of these associations may be consulted in convenient form in the "School Library Yearbook" No. 4, published by the American Library Association. If the librarian is untrained, the school has little chance to be approved. The implication in the *Library Journal* article that the public library will employ trained workers, only, in the children's room is one which cannot be substantiated by investigation. Even in cities of over 100,000 population, untrained workers can be found in children's rooms and the Children's Librarian herself may be untrained and sometimes may have limited formal education.

Many good arguments reach ill-advised conclusions because they are based upon incorrect or inadequate foundations, for example ". . . the child is likely to look upon the library in the school as another classroom." The whole atmosphere and use of the school library prevent that attitude. Without statistical evidence to prove that children so consider the school library the use of the term "likely" must be regarded as a subjective term influenced by the opinions of the authors.

The use of the school library does not preclude the use of the public library; in fact, school librarians make every effort to see that pupils become familiar with the public library before they leave school. Students are taken to the public library on trips and are sent to the public library for further material on hobbies or other recreational reading supplementing the school library.

A good deal of emphasis was laid on the fact that in some school libraries each child may actually be in the school library only one period a week. However, he is permitted to go to the library at any time before or after school to take out and return books. Moreover, the school libraries send collections of books to classrooms. They can be changed often and with little effort, thus giving the pupil opportunity to have the use of as large a number of books in his own classroom as he could possibly have under the plan outlined in the *Library Journal* article, and in addition he has access to a conveniently located school library.

The Junior High School age has been characterized as the "book and apple-core" age. This is the time when more reading is done than at any other time as outside activities are not so great as they become when the child grows older. Therefore, a large collection of books easily accessible is of great importance. In fact, it is the opinion of some school librarians that if one had to choose between a school library in a junior high school and one in a senior high school, the one for the younger group would be preferred.

The Clark-Latimer article has caused much discussion in the library world. Librarians have argued pro and con, and classes in library schools have had their share in the debate. Not only has it been the subject of much conversation, but the interest has also found its way into print.

"Economy or Efficiency? Let the Taxpayer Decide" is the answer of Miss Lucile F. Fargo and Miss Helen S. Carpenter in the *Library Journal* for February 1, 1934. They answer effectively every argument in the earlier article and add much to the general information of the whole subject as to whether or not a library in the school is worth the cost. They sum up their article under ten points:

1. Classroom library service from an outside agency is not the equivalent of organized library service within the school.
2. The modern school demands an integrated program of library service embracing (a) the use of books and libraries as the tools of a continuing education, and (b) the establishment of the habit of reading for pleasure.
3. The cost of collateral book service cannot successfully be compared with that for the organized school library because the services involved are not comparable.
4. The claim that the cost of the organized school library is "terrific" is a generalization on insufficient data.
5. Library work should be so developed as to reach all children. We need studies to ascertain how many are reached by the children's room. We must recognize that the school library touches all who are in school, and has a better chance to get at the non-reader and the poor reader than has the children's room.

6. While there are many poorly trained librarians in the school, as in the public library, this condition is in the process of solution through pressure from certifying agencies, through supervision, and through the enthusiastic efforts of the librarians themselves.

7. The experience of public libraries shows that the development of school libraries increases the use of public library facilities by school pupils.

8. Rural schools present a particular problem due to scattered population. Not all can hope to have full service, but the consolidated school and the county library are hopeful factors, each of which makes possible the provision of adequate service without undue expense.

9. Economy programs should be approached from the point of view of the value of services rendered and their necessity, educational or otherwise.

10. If the library in the school is generally indispensable to the broad program of education demanded by an age of turmoil and of leisure, both the educator and the taxpayer will look twice before wiping it off of the educational map; and the public library will hesitate to destroy an institution which is creating a generation of library users.

The editorial forum of the same issue had a statement by Frank L. Tolman, Director of the Library Extension division of the New York State Education Department beginning with this sentence, "The battle between school and public library seems to be on again." He summed up the deciding factors of the problem in four cogent paragraphs covering the elements upon which the outcome of the battle depends. They are:

1. Training and skill of the library staff. With infinitely better opportunities to secure efficient librarians through certification requirements, higher levels of pay and shorter work day, work week and work year, the school libraries will soon be getting the cream of the output of the best library schools. In some states this is already true.

2. Adequate specialized book collection. No public library can afford to furnish the number and variety of books needed by the school system. Neither is there any economy in their doing so. Classroom collections, exchange of books between schools, traveling libraries, all these devices can be and are used in city school library systems as efficiently as in the public library. And these plans for providing constantly changing collections to the classrooms are not to be regarded as comprising genuine and complete school library service.

3. Knowledge and close contact with all the school children in their studies, activities, avocations, and reading experiences is only possible in the school library plan. A modern school library touches the life of the school boys and girls at a dozen vital points to every one reached by the public library.

4. The school librarian is a teacher in a teaching institution. Intimate and continued contact on equal terms with the entire teaching and administrative staff of the school is essential to success. This is easily possible for a school library system, but almost impossible for a public library.

Even the Open Round Table was given almost wholly to letters about the Clark-Latimer article. One letter favored the stand taken in that article while two were definitely opposed to it.

Economies may, and should be practiced; but the public, the school library administrator, and the school librarian should be convinced that the best plan has been found before it is carried out. A division of some sort may well be made between the work of the school library and that of the public library. It should not be one which will work hardship upon pupils and teachers any more than upon taxpayers. A little more investigation may well be done before making any radical change.

AN ABSTRACT OF
THE DEVELOPMENT OF THE TRAINING SCHOOL

FRED McCARREL
Teachers College, Edmond, Oklahoma

Like other phases of American educational development, the training school had its beginnings in a background of European history. It may have originated partly from the very old custom of using the older and brighter pupils as teachers for others. It is related, also, to the apprenticeship system of teaching guilds which flourished in Europe as late as 1600.

From an analysis of the literature on the early training school movement, there appear certain definite influences which bear upon its inception and growth.

1. The influence of the Renaissance and the general spiritual and educational awakening it produced.
2. The influence of the Brothers of the Common Life, a priestly order which organized schools in the Netherlands as early as 1400. These schools produced such leaders as Erasmus and Comenius.
3. The Jesuit Order founded by Loyola in 1534 which was a reaction to the Protestant educational movement accompanying the Reformation. The Jesuit institutions which were soon projected to all parts of the world were practice schools on a large scale. These served as models for later teacher-training schools in both Europe and America.
4. The Brothers of the Christian Schools, a priestly order which came into existence as a part of the wave of educational philanthropy which began in Germany and England about the middle of the seventeenth century. The earliest schools of the order were founded about 1700. The schools established by the Christian Brethren were elementary, vernacular schools. Among these were, doubtless, the earliest elementary schools strictly for practice teaching.
5. The Pietists, a religious organization springing from the Lutheran Church during the seventeenth century. This group trained large numbers of teachers by requiring them to teach in the lower school as a part of their training. Among the celebrated Pietists whose influence on teacher training have been far reaching are Francke and Hecker. The work of Felbinger should be mentioned in this connection. Although a Bishop in the Catholic Church, he cooperated with the Pietists and established model schools in Silesia as centers of teacher training. To the work of these and other

leaders, mentioned above, the present-day model and demonstration schools may be traced.

6. The work of Basedow at Dessau which began in 1774 emphasized two functions of the modern training school; namely, demonstration and experimentation.
7. The work of Pestalozzi in the field of demonstration and experimentation in the institute at Yverdon, Switzerland, was of major importance. His influence rapidly spread to Germany, where Herbart and Froebel became effective disciples. Stimulated by the writings of Rousseau, Comenius, and Basedow, Pestalozzi and others evolved a new philosophy of education. This new philosophy called for a new type of school, and a new type of teacher. It had a tremendous influence on teacher training and gave impetus to the training-school movement.

The middle period of the training-school movement may be said to have its roots in Prussia. In the early part of the eighteenth century there developed in Prussia an enthusiasm for general educational progress. Many students were sent to Pestalozzi's school in Switzerland and upon their return to Prussia they organized the so-called "Prussian-Pestalozzian" system. This movement had unusual influence in re-shaping the educational system of most of the Prussian states. Teacher training was reorganized, and with this reorganization the training school came into prominence. The training-school movement spread from Germany to most of the other European states, taking firm hold in France, Switzerland, and England. In the latter country, Dr. Charles Mayo, who was associated with Pestalozzi at Yverdon for three years (1819-1822), returned to England and inaugurated the system of teaching by *objects*. His sister, Elizabeth, worked with him and a routine system in the new method was developed which became the pattern for many schools in England, and later, in America. Training schools in England were originated and fostered by several school societies. The forceful leadership of Joseph Lancaster and Andrew Bell was an important influence in the success of these school societies. These men were largely responsible for the rapid development of the monitorial system of teaching. The government co-operated in this movement by supporting these societies with subventions. Thus it is evident that the three chief sources for American antecedents of the modern training school were Switzerland, Germany, and England.

The earliest training schools in the present territory of the United States developed among the Indian pueblos of New Mexico. Franciscan friars established schools in this region as early as 1600. From the beginning, the brighter native students were trained for teachers. These were probably the earliest schools in what is now the United States and, certainly, are the earliest American schools in which student teaching was practiced. Mother

Seaton's teacher-training school at Emmitsburg, Maryland, established 1808, required practice teaching and had many of the characteristics of present-day normal schools.

Perhaps the earliest influence of the public normal schools of Europe, on the training schools of the United States, came through American travelers abroad during the first quarter of the nineteenth century. Enthusiastic reports were brought back concerning teacher training as a means of social improvement through popular education. The laboratory or practice school, maintained in many European centers in connection with the teacher-training institutions, was soon established in a few American communities. Public interest in the training school was somewhat stimulated by the success of certain private ventures in teacher training in which the practice school had a significant part. Naturally, the New England states were the scene of the first model or training schools. The names of Samuel Hall, James G. Carter, Charles Brooks, Cyrus Peirce, Horace Mann, Edward Everett, Henry Barnard rank high in the list of early New England supporters and workers in the training school field.

With the establishment of the State Board of Education in Massachusetts, 1837, the state normal school venture seemed assured. The early normal schools of Massachusetts, New York, Connecticut, New Jersey, Michigan, Minnesota, and Illinois, all established model schools as laboratories for observation and practice teaching. The training school connected with the normal at Albany, New York, is significant. Observation and practice teaching were here more carefully supervised than in the earlier schools of Massachusetts. This may be considered the first school to offer directed practice teaching. The personal influence of Principal David Page was an important factor in both normal school and training school development. A new type of normal school for the United States was developed at Oswego, New York, between 1860 and 1870. This school became the center, in America, for Pestalozzian ideas and methods. The work was somewhat formalized, due to the influence of the Mayo schools in England, from which Oswego procured teachers as well as educational patterns. The educational zeal, intelligent leadership, and long tenure of Dr. Edward A. Sheldon as head of the Oswego Normal were important factors in the spread of Pestalozzian influence throughout the United States. Teaching by *objects*, pleasurable learning, and much practice teaching were all emphasized at Oswego and spread from there to other normal schools of the country. A little later Normal, Illinois, became the American center for the practice and dissemination of Herbartian ideas and methods. These ideas and methods were recast and interpreted for American teachers by an unusual group of educational leaders. Among the outstanding teachers, connected with this school,

were Charles De Garmo, Charles and Frank McMurry, Lydia Brown McMurry, and Elmer Elsworth Brown. This group of skillful teachers, lecturers, and writers became one of the important influences in the training school movement.

The kindergarten was added to the normal school as a result of the kindergarten development in private and public schools. As a division of the state normal training school, it was first introduced into Wisconsin and Michigan, in 1880. The Cook County Normal, later the Chicago Normal, under the leadership of Colonel Francis W. Parker, became a prominent center of the kindergarten methods and philosophy. The kindergarten movement, with its spirit of play and free, pleasurable activity, gradually modified the character of the entire elementary school. The demand for trained kindergarteners increased rapidly and, by 1900, the kindergarten became an important division of the practice school.

Training schools grew rapidly in size and numbers after 1900. By this date the training school had become a definite division of the state normal school. About 1920, state normal schools began to evolve into state teachers colleges. With this change, the training school was expanded to include the junior and senior high school divisions and became a complete educational unit. The demand for trained teachers became so great that the practice schools were inadequate to meet the demands made upon them. In order to extend the opportunities for practice teaching, there began a partial transfer of practice teaching from the model school, on the college campus, to the co-operating public schools of the local city and nearby rural schools. Since 1920, there has been a decided tendency for teacher training to shift from high schools, county normal and private normal schools to state normal schools and state teachers' colleges where practice teaching is given more emphasis and more careful supervision.

With the partial transfer of practice teaching from the college campus to the nearby public schools, opportunities for practice teaching have been greatly increased. There has developed, also, a tendency for students to teach for longer continuous periods. A few teacher-training institutions require students to spend an entire semester teaching in an outside co-operating practice school. The practice school, both on and off the campus, has been accepted as an important feature of the teacher-training institution.

The training school appears to have had its beginnings in the apprenticeship system, fostered by the guilds in Medieval times. Its growth was encouraged by the general educational influence of both the Renaissance and the Reformation. In these early schools student teaching was practiced, usually, as a matter of economy rather than specific teacher training. From very simple beginnings practice teaching has developed into what some educators consider the most important activity in the preparation of teachers.

THE COEFFICIENT OF VARIATION AS A TOOL IN EDUCATIONAL PRACTICE

PAUL L. BOYNTON
George Peabody College for Teachers

Frequently in the fields of education and psychology there appears to be a need for a measure which will portray the extent of internal variability found among a certain group of individuals, or at least the scores made by these individuals, on some scale of measurement. In order to picture this condition several statistical devices or measures have been used. The first of these were the absolute measures, such as the standard deviation, or sigma, the quartile deviation, or Q, the mean deviations and the median deviations.[1] Next came the realization, probably formulated first by Pearson,[2] that these absolute dispersion measures were themselves inadequate because of the differences in the sizes of the scale units which were variously employed in measurement. For example, if a group is given a certain type of test, the scores on which run from 500 to 1000, with a mean of 750 and a standard deviation of 100, it is evident that this does not necessarily indicate any greater group heterogeneity or internal score variability on this test than might be seen on another test which was so scaled that all the scores would run from 5 to 10, with a mean of 7.5 and a standard deviation of 1. Quite manifestly, in this case, a measure of *relative* dispersion, or *relative* variability, is a more logical one to use than a measure of *absolute* dispersion or *absolute* variability.

Pearson's first suggested formula for the computation of a measure of intra-group score variation was

$$V = \frac{\sigma}{M},$$

in which V was used as a symbol to represent the expression, "coefficient of variation," 100 was a constant, σ was the standard deviation of the distribution in question, and M was the arithmetic mean of this same distribution.

[1]In this consideration references will be made to the standard deviation and quartile deviation, in the main, rather than to the mean and median deviations. This is due to the manifest ambiguity of these latter measures, which ambiguity is evident when one realizes that both can be computed from each of the three central tendencies of median, mean, and mode, and that in ordinary practice these dispersion measures usually show appreciable divergences from themselves when variously computed.

[2]Pearson, Karl, "Regression, Heredity, and Fanmixia." *Phil. Trans. Roy. Soc.*, Series A, Vol. clxxxvii, 1896; p. 253. (Reference taken from G. Udny Yule, "An Introduction to the Theory of Statistics." Chas. Griffin & Co., London. Sixth Edit.; 1922.)

Yule[3] recognized the suggestion made by Verscheffelt as to the value of extending the formula, and we have a modification where

$$V = \frac{100\ Q}{Md}.$$

In this statement of the formula, Q is the quartile deviation of the distribution and Md is the median of the distribution.

Since the 100 in both of these formulæ is merely a constant employed for the purpose of expressing the coefficient in larger units, and since this process accentuates the significance of the least significant figures in the coefficient, that is, these figures farthest removed from the decimal, the 100 will be eliminated in the present considerations. This, of course, does not alter the fundamentals of the formulæ; it alters only the absolute sizes of the coefficients; the relative sizes remain constant.

To these two formulæ, now to be stated as

$$\text{No. 1. } V = \frac{\sigma}{M}, \text{ and}$$

$$\text{No. 2. } V = \frac{Q}{Md},$$

we might add a third which has experienced some usage. It is[4]:

$$\text{No. 3. } V = \frac{Q_3 - Q_1}{Q_3 + Q_1}.$$

Logically it would be expected that the consistent use of these formulæ with two or more sets of data should yield relatively comparable results. That is, if one should have two groups, A and B, and through the use of formula No. 1, say, should find greater internal score variation in group A than in group B, then he should expect to find the A group more variable than the B group if formulæ 2 and 3 were used. Of course, it might be anticipated that the exact or absolute magnitudes of the coefficients would vary with the various formulæ, but with one formula presumably as satisfactory or as justifiable in usage as another, one certainly should expect relative group placements to be the same. In this connection it may be well to study the facts presented in Table I.

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[3]Yule, G. Udny., *op. cit.*; p. 149.

[4]Day, E. E., *Statistical Analysis.* Macmillan, New York, 1927; p. 174.

TABLE I

SUMMARY OF CENTRAL TENDENCY, DISPERSION AND VARIATION MEASUREMENTS FOR 18 GROUPS OF SCORES

Group	Mean	σ	V	Median	Q_3	Q_1	Q	V	$V=\frac{Q_3-Q_1}{Q_3+Q_1}$
1	2.79	4.20	1.51	.65	.97	.32	.33	.51	.26
2	3.35	3.53	1.05	1.65	1.97	1.32	.33	.20	.20
3	5.50	3.31	.60	5.50	7.00	4.00	1.50	.27	.14
4	5.02	4.28	.85	2.67	9.80	1.00	4.40	1.65	.81
5	5.50	3.37	.61	5.50	5.96	5.04	.46	.08	.08
6	2.79	3.54	1.26	1.40	2.60	.60	1.00	.71	.31
7	3.80	3.38	.97	3.50	6.50	.50	1.50	.43	.43
8	5.50	3.43	.63	5.50	6.67	4.33	1.17	.21	.11
9	2.63	3.56	1.35	1.27	1.82	.67	.53	.42	.21
10	3.46	3.78	1.09	1.52	2.00	1.12	.44	.29	.14
11	3.33	3.93	1.18	1.50	1.96	1.04	.46	.31	.15
12	5.31	4.77	.90	1.86	10.40	.67	4.87	2.61	.44
13	3.88	4.05	1.05	1.92	10.00	1.00	4.50	2.34	.41
14	3.80	3.61	.95	6.04	6.56	.57	3.00	.50	.42
15	2.75	5.08	1.85	2.30	2.95	1.65	.65	.28	.14
16	1.85	2.22	1.20	.69	5.08	.34	2.37	3.44	.63
17	3.94	4.00	1.02	1.69	10.08	.34	4.87	2.88	.47
18	3.87	3.85	1.00	2.50	2.94	1.04	.45	.18	.11

The 18 groups of scores, the data from which are summarized in Table I, all contained 48 cases; no score was in excess of 10 or lower than 0. Since

formulæ number 1 and number 2 are the most frequently used of the coefficient of variation formulæ, let us analyze the results presented through the use of these formulæ. In the fourth column of the table are the coefficients of variation for all 18 groups where the coefficients were derived from the use of formula number 1. In the ninth column are the coefficients for the same groups which were derived from the use of formula number 2. For specific comparisons, notice the table. Which has the greater internal variability, group 2 or group 3? According to formula 1, group 2 is decidedly more variable, whereas according to formula 2, the variability difference is small, but such as it is, points to a greater variability of group 3 than group 2. Among other such comparisons that could be made, notice groups 15 and 16. Which is the more variable? According to formula number 1, group 15 is over 50 per cent more variable than group 16, whereas according to formula number 2 group 16 is about 1,100 per cent more variable than group 15!

The most startling realization of all, however, comes when one correlates[5] the entire 18 pairs of coefficients of variation and obtains a coefficient of correlation of .002. The implications here are evident. Of course, formula 3 has much in common with formula 2, and yet the correlation between the coefficients of variation derived from the application of these two techniques is only .55, which, in light of the attendant coefficient of alienation of .84, indicates that the prediction of a given coefficient derived by one method, as a result of the knowledge of its paired coefficient derived by the other method, would be so precarious as to be of little if any practical value. The correlation between the variation coefficients derived by formulæ 1 and 3 is .018, which, like the correlation obtained from the use of formulæ 1 and 2, is so exceedingly low as to carry an obvious interpretation.

From facts such as the foregoing it would appear to be almost possible to obtain any type of coefficient of variation one should like to have for group comparisons. If group homogeneity is desired, and the first results are askew, try some other formula! The possibilities are manifold! It should be remembered also that these facts are developed only through the use of the three most acceptable, at least most commonly used formulæ. One can only speculate as to how scrambled would have been the data and the interpretations if in addition to these coefficients, all coefficients had been presented which would have followed from the use of all various measures of dispersion combined with all the various measures of central tendency.

Let us look at another aspect of these formulæ. The formulæ are so stated that a group becomes more homogeneous as the scores it makes on

[5]Correlations were worked by the following formula:

$$r_{xy} = \frac{\Sigma x \cdot y}{\Sigma X^2 \cdot \Sigma Y^2}.$$

some scale of measurement become larger. If, for example, two forms of a test are given in which one form is appreciably easier than the other, then the group taking the easier form will be the more homogeneous group, according to the coefficients of variation, if it can be assumed that the two groups are in reality identical as to average ability and true variation. Several years ago the writer[6] had occasion to give several hundred Terman group intelligence tests to college students. Forms A and B were used. It was found that one form was almost exactly 9 points easier than the other form, from the highest point in the distribution, through the average, to the lowest point in the distribution. To equate these two forms, then, 9 could have been added to the more difficult form, or 9 subtracted from the easier form. Manifestly, the addition of 9 to every one of the harder forms, the thing which was finally done, did not place any individual's score, in this group of scores, any closer to any other individual's score than it was in the beginning. All measures of absolute dispersion were unaffected; the range of scores was exactly as it was before 9 was added to the harder form. Despite all of this, however, the group became approximately 7 per cent more homogeneous than it was originally. If 9 points had been subtracted from all scores made on the easier form, though no individual's score would have been any closer to or farther from any other individual's score than it was in the beginning, and though the range and all measures of dispersion would have been unaffected, the heterogeneity of the group taking the easier form would have been increased by about 6 per cent.

Probably the point can be illustrated more adequately by a short simple example. Look at the data in Table II. Though the data are hypothetical, notice that on the Form X test the data are, on the average, exactly 3 points higher than on the Form Y test. The means and sigmas combine in the coefficient of variation to indicate that the Y group is about 43 per cent more variable than the X group. When a constant of 3 is added to each Form Y test score, so as to equate the two tests in Form X terms, it will be seen from the column of corrected scores that the Form Y group has been made approximately 30 per cent more homogeneous than it was originally. If 3 points had been subtracted from each Form X score, instead of added to each Form Y score, the result would have been 43 per cent increase in the heterogeneity of the Form X group, as measured by the coefficients of variation. As is quite evident from even a brief analysis of the data in the table, though, neither the additive nor subtractive process actually alters the true group variability in the least.

Another example which will serve to illustrate the fact that the coefficient of variation is as much concerned with *where* scores cluster as with ***how variable***

[6]Boynton, Paul L., *"Intelligence."* D. Appleton & Co., N. Y., 1933; p. 385.

TABLE II
HYPOTHETICAL DATA ON TWO FORMS OF A TEST, SHOWING MEANS, SIGMAS AND COEFFICIENTS OF VARIATION

Individual	Score on Form X	Score on Form Y	Corrected Scores on Form Y
1	12	1	1 + 3 = 4
2	20	5	5 + 3 = 8
3	8	11	11 + 3 = 14
4	4	1	1 + 3 = 4
5	14	17	17 + 3 = 20
6	16	13	13 + 3 = 16
7	6	7	7 + 3 = 10
8	10	3	3 + 3 = 6
9	6	3	3 + 3 = 6
10	4	9	9 + 3 = 12
Mean	10.00	7.00	10.00
σ	5.14	5.14	5.14
V	.51	.73	.51

they actually are, may be seen in a little problem with which the writer was working a few years ago. A certain test was given to two groups, M and N, each with 42 students. By some unusual chance selection the distributions were exactly symmetrical, as shown in Table III, but arranged at the opposite ends of the score ranges. Even a superficial analysis of the frequency distributions of the M and N groups reveals the fact that logically one group of scores is as variable as the other group of scores. By no stretch of the imagination could it be concluded that one of these groups of scores reveals a *truly* greater internal score variation than the other group. When one consults the coefficients of variation for the two groups, however, he finds that the N group is decidedly more variable than the M group, in fact, more than four times as variable. The reason for this is quite obvious. The groups' sigmas, which really measure the groups' score variations, are identical, but in group M the scores cluster around a high mean, 9.74, whereas in group N they cluster around a low mean, 2.26. Thus, in computing the coefficients of variation, the numerators are the same in both instances, but the denominators, which are in no way measures or even reflections of score variations, are variable factors. Therefore, the coefficients present a spurious picture of the difference in variation present in the groups.

TABLE III

SCORE-FREQUENCIES, MEANS, SIGMAS AND COEFFICIENTS OF VARIATION OF TWO SYMMETRICAL GROUPS OF STUDENTS

Score	Group M—Frequencies	Group N—Frequencies
10	22	
9	12	
8	5	
7	2	
6	1	
5		1
4		2
3		5
2		12
1		22
Mean	9.74	2.26
σ	.99	.99
V	.10	.44

This principle probably is illustrated in no better way than to notice a normal curve of distribution, such as is shown in Figure I. Let us say that the median of the group is 30 and that the quartile deviation is 5. This will

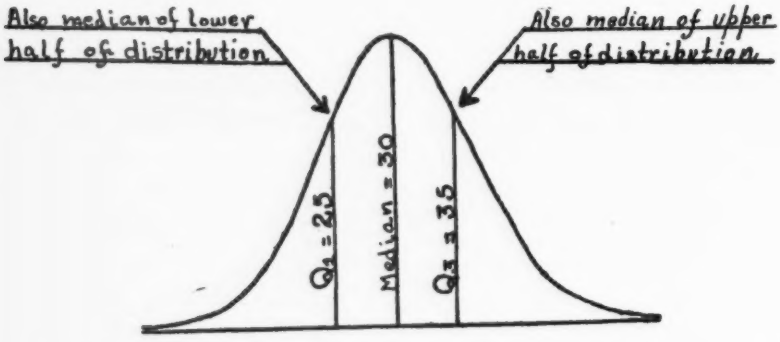

Figure I. A normal curve of distribution, illustrated with a median of 30 and a quartile deviation of 5.

make $Q_3 = 35$ and $Q_1 = 25$. Now, let us say that this curve represents the intelligence distribution of a class of students which is so large that it is necessary to divide it into two groups, the upper and lower halves. When this is done, the median of the upper half becomes 35, and the median of the lower half becomes 25. In turn, Q_3 for the upper half becomes 38.53, and Q_1 for the upper half becomes 32.36. This makes the Q for the upper half of this normal curve equal 3.09. In reverse order, Q_3 for the lower half is 27.64, and Q_1 for the lower half is 21.47, making this Q equal to 3.09 also. With these data before us, the coefficient of variation for the upper half of the students, or upper half of the normal curve is:

$$V = \frac{3.09}{35.00} = .088.$$

The coefficient of variation, then, for the lower half is:

$$V = \frac{3.09}{25.00} = .124.$$

Thus do we find that the lower half of this normal distribution is more variable than the upper half, in fact, is about 41 per cent more variable. Furthermore, though this per cent difference in variability is not the same for all normal distributions, of course, it can be demonstrated statistically with *any* normal distribution, and with any one of the variation formulæ that the upper half of a normal distribution is *always* more homogeneous than the lower half. Logically and actually, of course, we know that this is not true.

If we continue briefly with normal distributions we find that it can be proved statistically, through the use of present coefficients of variation, that one normal curve is itself more variable than another. As an example of this let us say that we have a test, J, where the median is 50 and the quartile deviation is 10, in a group which forms a perfectly normal distribution. These facts, of course, would indicate that the coefficient of variation, by the median-quartile formula, is .20. Now let it be assumed further that a second test, K, is given this group and that due to the particular nature of the material involved and the scoring units the median score on this test is 150 and the quartile deviation is 10. Further, we will assume that the difference of 100 in central tendencies on the two tests is constant throughout the ranges of each, and that all J test scores can be transmuted into K test terms by simply adding 100 to each J test. Quite obviously, the addition of 100 to every score in the J test distribution will not alter either the true variability of the group or the normality of the distribution. After the transmutation process, however, the normal J distribution, which originally bore a coefficient of variation of .20, will carry a new coefficient of variation of

.067. This is due to the fact that the quartile deviation, which really measures the group variability, remains constant, 10, but the median, which is in reality a reflection of score concentration instead of score variation, is increased from 50 to 150. In any event, though, we see that these variation formulæ are so stated that even normal distributions really may give no norm, but may vary among themselves in their own variabilities.

It may well be asked as to what are the applications and implications of the facts which have been presented. First, we should say that though there is a need for an adequate measure of group variation, no formula now in general use is adequate for measuring this variation in the various types of educational situations which one normally meets. This is testified to by the disagreement of the results obtained through the use of various variation formulæ with the same groups of scores, as well as by the application of these formulæ to groups of different score magnitude but identical internal variation. Second, no formula ever will be adequate if it depends fundamentally on a measure of score concentration instead of score variation. Measures of central tendency are by definition and fundamental concept measures of the way in which scores cluster, or bunch, or "pile up," and so long as these measures are made the criteria of the way in which scores do *not* cluster, or do *not* bunch, or do *not* "pile up," then spurious measures of score variation can be expected. Third, at the present time it is possible to prove that a group is either extremely homogeneous or extremely heterogeneous, if one will but be "discreet" in selecting his formula, or if the proper additive or subtractive constants are used, or both. Without doubt vast numbers of the differences in variation which are found among educational groups are not pictures of differences in true variation, but are reflections of the abnormalities of the distributions, or the sizes of the scale units used in measurement, thus being more nearly measures of central tendency differences than variation differences, or are the results of the use of a particular formula. Fourth, though measures of relative variation are needed, few permanent beneficial practical or scientific results can be expected to follow the use of incorrect or inaccurate formulæ for the determination of relative variation. Therefore, it would probably be well to discard the present measures of relative variation in most situations, even though there may be nothing to replace them. Fifth, the absolute measures of score variation or dispersion ordinarily cannot be used in inter-test comparisons, unless the scores made on one test, or in one measured situation, can be transmuted into the scores made on another test without destroying the original picture of score variation, these absolute measures, if thus handled, are the most desirable measures of score variation. Certainly is it true that if two groups are given the same test, then the measures of absolute score dispersion are unquestionably the best measures of internal score variation now available.

RUMINATIONS ON READING LISTS

ESTHER STALLMANN
Peabody Library School

In the Garden of Eden there must have happened one thing of importance which is omitted from the "Extracts From Adam's Diary," by Mark Twain. After Eve named all the animals, I am sure that she and Adam made a list of them and selected the best ten or twenty for close company perhaps, or they may have compiled a list of those with whom their children should not associate. I think the tiger was on this last named list. According to Mark Twain, Adam, at least, was busy, except on Sunday. If he had started listing or cataloging the animals as Eve named them, he would have petitioned for more Sundays instead of just barely surviving one Sunday each week. Eve was engrossed by her new park with its new animals; her primary interest was Adam, and, later, her children. But she had time to put up the sign "Keep off the grass" and "This way to Goat Island" and that before Cain and Abel were born. No mention is made of story telling. Of course the Garden of Eden was a most dismal place for continued residence, for there were no books. But there must have been stories. Had there been a repertoire of stories, undoubtedly, Eve would have had her mental catalog of the "Stories Abel Liked Best" and the "Songs for the Baby's First Five Years."

The ten best stories for Cain wouldn't have been the ten best stories for Abel, but Eve would have had individual lists for each child. Seven stories might have been common to both lists.

A reading list is an enumeration of three or more books or articles recommended or suggested for reading. These titles are selected because they have something in common each with the others.

The avowed purpose of any reading list is to stimulate reading. It would lead to less ineffectual reading, less waste of time on nugatory material; and, as a consequence, there should be more time for the reading of material that is meaningful, and it is the purpose of reading lists to point out such materials.

Arnold Bennett asks:

> Does there, I wonder, exist a being who has read all, or approximately all, that the person of average culture is supposed to have read, and that not to have read is a social sin. If such a person does exist, surely he is an old, a very old man, who has read steadily that which he ought to have read sixteen hours a day, from early infancy. I cannot recall a single author of whom I have read everything—even of Jane Austen. I have never seen *Susan* and *The Watsons*, one of which I have been told is superlatively good. Then there are large tracts of Shakespeare, Bacon, Spenser, nearly all Chaucer, Congreve, Dryden, Pope, Swift, Sterne, Johnson, Scott, Coleridge, Shelley, Byron, Edgeworth, Ferrier, Lamb, Leigh Hunt, Wordsworth (nearly all), Tennyson, Swinburne, The Brontes, George Eliot, W. Morris, George Meredith, Thomas Hardy, Savage Landor, Thackeray, Carlyle—in fact, every classical author and most good modern authors, which I have never even overlooked. A list of the masterpieces I have *not* read would fill a volume. With only one author can I call myself familiar, Jane Austen.

With Keats and Stevenson, I have an acquaintance. So far of English. Of foreign authors, I am familiar with Maupassant and the Goncourts. I have yet to finish *Don Quixote!**

Arnold Bennett was a discriminating reader and a prodigious reader, yet he says further:

I cannot accuse myself of default. I have been extremely fond of reading since I was 20, and since I was 20 I have read practically nothing (save professionally, as a literary critic) but what was "right." My leisure has been moderate, my desire strong and steady, my taste in selection certainly above the average, and yet in ten years I seem scarcely to have made an impression upon the intolerable multitude of volumes "every one is supposed to read."*

Fifty years ago teachers and parents were expressing their need for help in guiding the reading of children.

The greatest problem presented to the consideration of parents and teachers nowadays is how properly to regulate and direct the reading of the children. There is no scarcity of reading matter. The poorest child may have free access to books and papers, more than he can read. The publication of periodicals and cheap books especially designed to meet the tastes of young people has developed into an enterprise of vast proportions. Every day, millions of pages of reading matter designed for children are printed and scattered broadcast over the land. But unlimited opportunities often prove to be a damage and a detriment; and over-abundance, rather than scarcity, is to be deplored.*

This might have been written today. But today there is an abundance of reading lists to help winnow the desirable from the less desirable reading; fifty years ago such helps were scarce.

Since the purpose of a reading list is to stimulate and improve reading, it follows that the first essential of the list is that, by its format and content, it should so commend itself to its public that its catalog of books will be thoughtfully considered. It should ultimately lead, directly or indirectly, to the reading of the titles it enumerates. Well planned reading lists should accomplish one, or sometimes more than one, of the following things:

1. Bring about more reading. (This should not be an end in itself.)
2. Lead to a higher grade of reading. (The so-called "ladder" list has this as its specific purpose.)
3. Encourage more diversified reading. (This when the reader's taste has settled on stagnant material, as when the school boy loses himself in series books.)
4. Make possible more satisfying reading. (By introducing new material, or material better suited to the purpose of the individual.)
5. Make likely more intensified reading. (This when desultory reading is leading to pleasant but sterile ends.)
6. Lay a plan for more purposeful reading.
7. Satisfy some utilitarian end through reading. (Such as is done when the craftsman is, through books, enabled to improve his work.)

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*Bennett, Arnold. Journal . . . 1896-1910. N. Y., Book League of America, 1932; pp. 21-22.

*Baldwin, James. The Book-lover. Chic., Jansen, McClure and Co., 1885; pp. 84-85.

8. Satisfy some educational or cultural end.

But always the underlying purpose of any reading list should be to give satisfaction or pleasure, or, rather, to share pleasure.

Lists are compiled for three groups of users:

1. Readers (who, incidentally, may be buyers).
2. Those who work with, or buy for, readers.
3. The compilers themselves.

An example of the third type, the lists made for the use of the compilers themselves, is the "Pigskin Library" of Roosevelt: the catalog of the books which he and his son took with them to Africa. This type of list, after serving its original purpose, may become a list of interest to other readers, or even to those who work with readers.

Reading lists may be negative in that they may be a register of books NOT to be read, recommended, or purchased. They correspond to Eve's "Keep off the grass" sign.

Samuel Crothers discoursed on the "Hundred Worst Books," but he stopped short of a list with the explanation that "like all the lower organisms, poor books multiply prodigiously, though the total number is kept down by a corresponding mortality." The *Catholic Index* is an example of this negative type of reader's list.

The list of series books *Not To Be Circulated,* which list has been several times reprinted, is an example of the "verboten" roll for those who work with the public.

Some libraries keep a file of titles not to be bought or not to be accepted. This file is an example of negative recommendations made for the use of the compilers themselves. Lists that are made for readers are, of course, useful for those who work with readers. These two types of lists differ, principally, in format, arrangement, and amount of information included.

The ideal reading list is like the mental catalog that Eve may have kept of the stories her Abel liked best. It is made for a specific individual and made by some one who knows the capacities and background of the one individual who is to use it. But this is simply an ideal. In reality, lists are made on all sorts of subjects, for all sorts of people, and by all sorts of people.

It may be best to elaborate the definition of a reading list. A reading list is an enumeration of three or more books or articles recommended, or suggested for (or not for) reading, recommendation, or purchase. The titles enumerated are selected because they embody some unifying factor or factors. This thing which they have in common may be subject matter; it may be the degree of difficulty of reading matter; the religious slant of the author; the setting of the story; the author's birthplace; or some association or judgment of the compiler. Some of the factors involved in making a reading list are

here tabulated. Several and sometimes most of these factors are concerned in making one list, but usually one factor is more important than any other for that one list. Under each factor I have given the title of some one list in the making of which the factor was predominant.

1. The books themselves.
   a. Subject matter.
      The Stars.
   b. Form of literature in which subject is cast.
      The Modern Drama.
   c. Format
      Illustrated Editions of High School Classics.
      Ten-cent Books for Children.
      Books for Tired Eyes.
   d. Authorship.
      Southern Writers.
2. The group, or individual, may be defined by the following factors:
   a. Age or reading level.
      Readable Books on Many Subjects.
      The Right Book for the Right Child.
   b. Religious, ethnic, or geographical limitations.
      The Greek Immigrant and His Reading.
      Books for the South.
   c. Profession, occupation, or place in society.
      List of Books for a Teacher's Professional Library.
      Catalog of Literature for Advisers of Young Women and Girls.
   d. Sex.
      A Girl's Book List.
   e. Cultural, educational, or reading background.
      Vocations for College Women.
3. Time and place might be considered independently, though both may be covered under author and subject matter.
   Books for a Summer Camp.
   Best Books of Our Time.
4. Or it might be some judgment or appreciation of value, or some kindred feeling in the mind of the compiler himself or assembled and interpreted by the compiler.
   Books Which Have Helped Me.
   One Hundred Best Books.
   Books Which Have Been Awarded the Newbery Medal.

Lists may be subjective or objective; or rather, some may be more subjective than others. Subjective lists embody the opinions or tastes or reflect

the reading enthusiasm of the compiler. They may embody the personality of the compiler so strongly that they are a living testimony to the pleasure he found in books and an irresistible invitation to the reader to share this pleasure. To me, the lists that reflect very clearly the personal enthusiasms of the compiler are far more interesting than those that embody the concensus of opinion. Christopher Morley's *Golden Florins* names the books and writers that "over 20 years of mature reading . . ." had "meant most" to him. No one else could have compiled this list. It could not embody the tastes of any other person. Its charm is in its suggestiveness. You may be led through his personal recommendation to broaden your knowledge of books and authors by sampling here and reading intensively there from those books of his which you have not known. Perhaps such lists are best for those of us who are more at home with books. Arnold Bennett writes somewhere of those wealthy men, interested in the arts, who find some second rate artist who appeals to them, and collect his work and talk it and interest others in it. Personal enthusiasms are most engaging for those of us who are sure of the compass, but they may be misleading to others.

Lists which are less subjective reflect the concensus of opinions, tastes, and reading interests of a group either arrived at scientifically or subjectively interpreted by the compiler or they may enumerate all available material on the subject.

A list might be considered primary or secondary in its selections and annotations: primary, if the person making the list has read or examined the books and judges them to best fulfill the purpose of the list; secondary, if he compiled his list from other lists whose compilers had read and selected the books. But, I fear me, many are tertiary or even farther removed from the testimony of real enjoyment and consequent personal recommendation of books experienced, or even examined. The purpose of any list is to lead some one directly or indirectly to experience the satisfaction or pleasure which the compiler believes is to be found in the books which he enumerates.

Lists may be annotated, that is, to each title may be appended some phrase or sentence descriptive or critical of the book.

The titles which appear on a list may be a mere sampling of books which could have been included; or the titles may be selected critically as embodying most generously the qualities sought; or the register of titles may include all books which fulfill the requirements sought (if the subject be small or new). In the first case the list is a sampling of material; in the second, it is critically selective; in the third case it is exhaustive.

Why are reading lists compiled? I should hazard four guesses:

1. In response to a specific request or a felt need.
2. For publicity—institutional (or personal).

3. Pleasure, Sir, pure pleasure (of the compiler).
4. Perhaps for gain, but I assume that this is a purely academic suggestion; possible perhaps, but highly improbable.

When you stand face to face with a reading list, your reaction will depend on how many familiar authors or titles you see. You will ask yourself some of the following questions:

How many do I know by title? or How many are unfamiliar by title? How many have I read? or How many have I not read?

And after reflection:

Is my favorite book, which might have been included, on the list? If it is there, or if some books you do know and like are there, you feel immediately more familiar with and more cordial toward the list. For this reason it is well for a list to contain some title or titles that will likely be familiar to the public for whom the list is intended. Some lists are noteworthy because of their omissions rather than because of their inclusions, which reminds me of the minister to whom I listened dutifully for years as he prayed that we might be delivered from our sins both of omission and of commission.

THE NEWBERY MEDAL

The Newbery Medal is simply a bronze medal, the gift of Mr. Frederic Melcher, the editor of *Publisher's Weekly*. This medal was designed by Rene Chambellan and named for John Newbery, the first English publisher to realize and cultivate the field of publishing books for children. The medal is given annually, since 1922, at the meeting of the American Library Association, by the chairman of the section (of the A. L. A.) on library work with children, to the author of the book that the committee on awards have selected.

All books considered for the award must have been published during the past calendar year. The authors of the books considered must be citizens or residents of the United States. All work must be original and creative; reprints and compilations are not considered. The award is made for "the most distinguished contribution to American literature for children, original in conception, fine in workmanship, and artistically true." The work need not be written solely for children.

The medal is the only material recognition given, no prize money is involved.

TITLES WHICH HAVE RECEIVED THE NEWBERY MEDAL AWARD

Date of Award—1921

The Story of Mankind. By Hendrik Willem Van Loon (1882—). Illustrated by the author. New York: Liveright. 1921. Pp. 479. o. p. $5.00.

Other editions:

———. New York: Macmillan, 1923. Pp. 492. (School edition.) $2.20.

———. New York: Liveright, 1925. (Newbery medal edition.) $2.50.

———. New edition, enlarged. New York: Liveright, 1926. Pp. 505. $2.50.

———. Garden City, N. Y., Garden City Publishing Co., 1931. Pp. 903. (Star books) $1.00.

———. New York: Liveright, 1932. Pp. 501. (Black and gold library.) $2.00.

Suitable for grades 7-8. Subject matter: history. Author born in Holland.

1922

The Voyages of Dr. Doolittle. By Hugh Lofting (1886—). Illustrated by the author. New York: Stokes, 1922. Pp. 364. $2.50.

Suitable for grades 4-6. Subject matter: fiction (nonsense). Author born in England.

1923

The Dark Frigate. By CHARLES BOARDMAN HAWES (1889-1923). Illustrated. Boston: Little, 1925. Pp. 247. $2.00.
Suitable for grades 7-8. Subject matter: historical fiction. Author born in America.

1924

Tales from Silver Lands. By CHARLES JOSEPH FINGER (1871—). Wood cuts by Paul Honore. New York: Doubleday, 1924. Pp. 225. O. p. $3.50.
————. New York: Doubleday, 1930. Pp. 225. (Junior library.) $2.50.
Suitable for grades 5-7. Subject matter: folklore. Author born in England.

1925

Shen of the Sea. By ARTHUR BOWIE CHRISMAN (1889—). Illustrated with over fifty silhouettes by Else Hasselriis. New York: Dutton, c1925. $2.00.
Suitable for grades 5-8. Subject matter: folklore. Author born in America.

1926

Smoky: The Cowhorse. By WILLIAM RODERICK JAMES (1892—). Illustrated by the author. New York: Scribner, c1926. Pp. 310. $2.50.
Other editions:
————. New York: Scribner, 1928. Pp. 321. (Library edition.) $2.00.
————. New York: Scribner, 1929. Pp. 263. (Classic edition.) $2.50.
————. New York: Scribner, 1930. Pp. 318. (Cheaper edition). $1.00.
Suitable for grades 7-8. Subject matter: animal story. Author born in America.

1927

Gay-neck, the Story of a Pigeon. By DHAN GOPAL MUKERJI (1890—). Illustrated by Boris Artzybasheff. New York: Dutton, c1927. Pp. 197. O. p. $2.25.
Other editions:
————. New York: Dutton, 1928. Pp. 197. $2.00.
————. New York: Dutton. (School edition.) $1.25.
Suitable for grades 5-8. Subject matter: animal story. Author born in India.

1928

The Trumpter of Krakow: a Tale of the Fifteenth Century. By ERIC PHILBROOK KELLY (1884—). Illustrated by Angela Pruszynska in Krakow. New York: Macmillan, 1928. Pp. 218. $2.50.
Suitable for grades 7-8. Subject matter: historical fiction. Author born in America.

1929

Hitty: Her First Hundred Years. By RACHEL LYMAN FIELD (1894—). Illustrated by Dorothy P. Lathrop. New York: Macmillan, 1929. Pp. 207. $2.50.
Suitable for grades 5-7. Subject matter: fiction. Author born in America.

1930

The Cat Who Went to Heaven. By ELIZABETH JANE COATSWORTH (MRS. HENRY BESTON SHEAHAN) (1893—). Illustrated by Lynd Ward. New York: Macmillan, 1930. Pp. 57. $2.00.
Suitable for grades 4-7. Subject matter: folklore. Author born in America.

1931

Waterless Mountain. By MRS. LAURA ADAMS ARMER (1874—). Illustrated by Sidney Armer and Laura Adams Armer. New York: Longmans, 1931. Pp. 212. $2.50.
Suitable for grades 5-8. Subject matter: folklore. Author born in America.

1932

Young Fu of the Upper Yangtze. By MRS. ELIZABETH FOREMAN LEWIS. Illustrated by Kurt Wiese. Philadelphia: Winston, 1932. Pp. 265. $2.50.
Suitable for grades 7-8. Subject matter: fiction. Author born in America.

The grade placement in each case is that given by the Children's Catalog published by the H. W. Wilson Company in 1930, and in its supplements.

REFERENCES ON NEWBERY MEDAL BOOKS

Newbery Prize List. By RUTH A. BARNES. El. Eng. R., 6: 74-5. Mar., 1929.
Ten Years of the Newbery Medal. By SOPHI' L. GOLDSMITH. Bookman: 74:308-16. Nov., 1931.
The John Newbery Medal. By HELEN MARTIN. (In American Library Association. Committee on Library Work with Children. Children's Library Yearbook, Number Two. Chicago: A. L. A., 1930. Pp. 21-24.)
Some in Velvet Gowns. By MARJORIE THOMAS. *Peabody J. Ed.*, 7: 139-46. Nov., 1929.

THE SACRIFICE HIT

Baseball has developed a phrase quite available for professional adaptation, "the sacrifice hit." Some one, was it Professor Cubberly, attached a professional significance to it. Its meaning in sport is well understood; but what are its uses when applied to teaching? Well, for instance, Henry Jones, superintendent of Robespierre County, insisted on high standards in the maintenance and instruction of his schools, but not all of Henry's constituents desired high standards, and presently those who took offence therefrom gathered sufficient strength to put Henry out at first base. He advanced the cause of boys and girls, but he himself went out. He made the sacrifice hit.

Professor Bing, over in Alkali College, suggested to the members of the team that a little study wouldn't discourage their prospects for passing his courses. This was in the olden days when varsities would be varsities you know, so the team proceeded to pass out the word that the old professor was down on athletics and generally disloyal. Professor Bing immediately became considerably less popular than the pestilence. In standing for the fundamental mission of the college he made the sacrifice hit.

But there is a happy ending after all. Superintendent Jones's successor carries on more effectively because Henry made the sacrifice hit. Good old Alkali is a better school today, because Professor Bing lifted up his voice against unfortunate tendencies, when the lifting up of voices was an infrequent procedure. Let us not permit the sacrifice hit to be lost from the scorer's sheet.

EDITORIALS

NOT *TOO* NEW AN EDUCATIONAL DEAL

Civilization is a long continued process of the accumulation and refinement of human experience. It is unthinkable that man would, if he could, throw away his compass, embark in an entirely new and unseasoned vessel, upon an uncharted sea, thinking the sooner and safer to reach his destination.

Unthinkable in education! Admittedly much of man's social and spiritual accumulation lacks refinement. No new educational deal can satisfy this lack save in due and orderly procedure, save that it recognizes the ancient and abiding principle of Sequence.

Unthinkable in the curriculum! For what body of subject matter has been found fit for entire rejection? In some details, yes. Such, for instance, as undue reiteration of unrelated dates or the undue exaltation of war. But History is permanent and the time will not come when the study of man's major movements will not be one of his surest guides as he goes forward. Geography is permanent, but we learned years ago that it carries far more virility than that implied in boundaries and capitals. The classics and the sciences are permanent. No man of poised mind will say that mathematics has no place in the educational sun.

Unthinkable in educational method! No widely used method of any time has ever wholly disappeared, nor is any current method wholly new. It is merely a manifestation in the everlasting cycle of Sequence. The educational standpatter and the flamboyant partisan of the New Deal alike reject man's tendency to accumulate social and spiritual truth. One cuts off posterity, the other ancestry.

MY ANNUAL EXCITEMENT

I have had my annual professional excitement. I have been to the State Education Association. It was a trip, and trips now and then are good for teachers. I saw the city and liked it. It was sympathetic and companionable, neither too provincial nor too sophisticated. The shopping was satisfactory. I met hundreds and hundreds and hundreds of friends. How good is the day that brings friends together! Some of the speeches and discussions I heard were excellent, most were good, all were wholesome. They were not made to mere sprinklings of languid listeners. Even to the last program, the hall was crowded with teachers, alert and sensitive to the question of the moment. Presidence was with dignity and poise.

I am happy because my annual professional excitement not only excited but inspired.

ANY GOOD TEACHER OF ANY STATE.

THE NEW BOOKS ON OUR SHELVES

[The reviews, most of them signed, are by appropriate members of the Faculty of GEORGE PEABODY COLLEGE FOR TEACHERS. Our limited space necessitates concise notices—brief, pointed, thoughtful comments, without elaboration.]

Essentials of Everyday English. Books Three to Eight, inclusive. By FERRIS AND KEENER. New York: Laidlaw Brothers.

"A pupil-activity textbook" designed by the editors to furnish a complete course in English for the six grades represented by the six books. The material in each book includes explanation of grammatical principles with objective tests based on each, training in oral composition, and practice in written composition including drill in capitalization, punctuation, and vocabulary building. Pictures make the exposition more concrete. The series presents well the essentials of everyday English, but the treatment of literature is inadequate and the literary selections unattractively spaced.

S. B. R.

A Study of Library Reading in the Primary Grades. By C. DEWITT BONEY. New York: Teachers College, Columbia University, 1933. Pp. vi + 70.

This is an unusually valuable study and fills a definite need in the field of reading. Students who are interested in the teaching of reading will find chapter on the Development of Objectives especially useful.

S. C. G.

Modern English. Books I, II, and III. By HENRY P. EMERSON, IDA C. BENDER, AND BLANCHE JENNINGS THOMPSON. The Macmillan Company, 1932.

These books furnish a basis for formal study along with much free work. They correlate in a very fine way the work in spelling, reading, and language. These books are attractively constructed and should attract the interest of the pupil.

S. C. G.

American Language Series. By JAMES F. HOSIC AND C. LAURON HOOPER. Rand McNally & Company, 1932.

This is a series of texts built for the III-VIII grades. The general character of these books is social, but opportunity is provided for individual work with faster and slower pupils. The work in language is integrated with the other language arts. The mechanical make-up of these books comes up to the usual high standard set by the publisher.

The Psychology of the Elementary School. By HARRY GROVE WHEAT. Silver, Burdett & Company, 1931. Pp. 440.

This is one of the best texts in the field. There are chapters on Learning and Teaching, the School Program, and Pupil's Behavior, as well as chapters on the psychology of the various elementary school subjects. The treatment of the Psychology of Arithmetic is especially good. The subject is treated genetically and has a freshness which is not usually found.

S. C. G.

Educational Achievement in Relation to Intelligence. By CHARLES W. ST. JOHN. Cambridge: Harvard University Press, 1930. Pp. xiv + 219.

The research in this field is thoroughly reviewed and constitutes a valuable summary. The author's own studies are presented and interpreted in a sane way.

A Study of Young High School Graduates. By MARGARET WHITESIDE MOORE. New York: Teachers College, Columbia University, 1933. Pp. x + 77.

An analytical study of 308 young, gifted, high school graduates. The author shows these 308 young students come largely from the higher occupational levels; spent eight semesters in high school; have better educated parents than the general run of high school pupils; attend college in larger proportions; and maintain their superiority as they progress through college.

General History. 1001 Questions and Answers. Revised Edition. By BENJAMIN A. HATHAWAY. New York: Noble and Noble, 1933. Pp. 256.

Exactly what its title indicates, a handy little book of one thousand and one questions and answers on general history. It is appropriate for study groups or individual students working without specific directions; not suitable for a class manual of learning exercises.

B. S. H.

Workbook in Business English. By GEORGE BURTON HOTCHKISS AND CELIA ANNE DREW. New York: American Book Company, 1933. Pp. 192.

Those teachers who have found the use of workbooks or manuals an aid in the teaching of composition will wish to examine this book. It contains much additional exercise material to supplement class work. E. N. S.

Practical Exercises in News Writing. By DOUGLAS WOOD MILLER. New York: D. C. Heath and Company, 1933. Pp. 131.

Designed for use in college journalism classes, particularly in schools where there is no campus publication. Made up largely of materials for news stories and faulty stories for criticism or rewriting. S. B. R.

Heath Readings in the Literature of Europe. By TOM PEETE CROSS AND CLARK H. SLOVER. New York: D. C. Heath and Company, 1933. Pp. xv + 1194.

An excellent collection of European readings suitable for a class in comparative literature or a private library. The selections included represent the main currents in ancient, mediaeval, and modern European literature and are also designed to increase the reader's knowledge and appreciation of English literature. Comprehensive, readable, good type, attractive format. S. B. R.

Adult Education and the Social Scene. By RUTH KOTINSKY. New York: D. Appleton-Century Company, 1933. Pp. xxi + 208.

The book is divided into three major divisions, namely: the functions of adult education, criticism of the American movement for adult education, and some issues in adult education in the light of its functions. It presents a well-balanced treatment of the whole movement for adult education. The most attractive phase of the book is division three in which the many current issues in adult education are presented in a challenging tone. D.H.C.

Then and Now in Dixie. By ROSE MORTEMER ELIZEY MACDONALD. New York: Ginn and Company, 1933. Pp. vii + 293.

A series of units for intermediate grades largely on southern agriculture attractively illustrated. The treatment includes related colonial history, each unit having study helps and suggestive reading lists. U. W. L.

The Community and Society. By LORAN D. OSBORN AND MARTIN H. NEUMEYER. Cincinnati: American Book Company, 1933. Pp. x + 468.

Part I, the contemporary collunity, includes chapters on rural communities, the small city, urban area, family life, making a living, education, play, moral, and religious life, community planning, maladjustment, poverty, dependency, crime, and delinquency.

Part II, social processes and sociological principles, includes such striking topics as social drives, social interaction, conflict, integration, and co-operation, crowd behavior, personality, social institutions, social values, and human progress. Of course other topics are also adequately treated.

The book is the second in the American sociology series from this press. The treatment is clear, logical, and very commendable. Valuable exercises and references are offered on each chapter. The student is led into interesting studies. K. C. D.

Our Little Friends of the Arabian Desert, Adi and Hamda. By FRANCES CARPENTER. Il. By CURTIS SPRAGUE. American Book Co., 1934. Pp. 232.

"One of a series of home-life readers for supplementary use in the elementary school." Adi is a little Bedouin boy and Hamda is his sister. We see them on a journey by camel caravan, share with them the pangs of thirst which they endure, rejoice when the wells are reached, and watch a tent set up at an oasis. Myths, legends, and superstitions are included which make the people seem real. *Our Little Friends of Eskimo Land*, by the same author, is included in the *Children's Catalog Supplement*, a selected list published by the American Library Association. Useful in the study of geography. Suitable for the fourth and fifth grades. R. E. C.

Educational Returns at Varying Expenditure Levels. By ORRIN E. POWELL. New York: Teachers College, Columbia University, 1933. Pp. vii + 54.

This book should assist school boards and superintendents in their consideration of reductions of school expenditures. The author has exhibited the relation between current expenditures and the results in terms of pupil achievement. He points out how better results may be secured with the same amount of money. H. D. W.

The Learning-Teaching Unit. By JOHN P. WYNNE. Herald Publishing Company, Farmville, Virginia. Pp. 85.

Here is a book that teachers everywhere are looking for. Within the scope of a few pages it contains the principles governing unit instruction; techniques to be employed in teaching by units; methods to be observed in planning units; and procedures to be followed in reporting and evaluating units.

This pamphlet is perhaps the most useful publication that has yet appeared for the guidance of teachers interested in unit teaching. It should also be very useful for curriculum workers who are developing courses of study. It is authoritative, non-technical, definite, and practical. S. B. T.

The Social Composition of the Secondary Schools of the Southern States. By FLOYD JORDAN. Contribution to education, number 108, Peabody College, Nashville, Tennessee.

This dissertation attempts to evaluate the social and economic status of the pupils of the Southern high school by studying such problems as number of rooms in home; whether there is an automobile or radio in the home; whether the home is owned or rented; how many servants there are in the home, etc. It follows the Counts' study, but on a very much more extended and scientific basis. A thought-provoking study of the Southern Association public high school, fraught with implications for the modern high school.

The Functions of the Journals of the State Education Associations. By J. E. BREWTON. Contribution to education, number 125, Peabody College, Nashville, Tennessee.

After the author gleaned from the columns of one whole year's issue of journals the functions claimed for them by their editors, he analyzed their contents in detail to find to what extent the editors followed out their claims in actual practice. It is a thoroughgoing analysis and evaluation of the content of state education journals in terms of their stated objectives.

The Development of Secondary Education in Alabama. By O. W. HYATT. Contribution to education, number 118, Peabody College, Nashville, Tennessee.

In this dissertation the author traces the rise of secondary education from territorial days in Alabama to 1920. The first part deals with the rise of the academy and its contribution; and the rest of the study is concerned with gradual rise and expansion of the public high school. Such topics are discussed as the rise and decline of the academy; reconstruction and secondary education; the influence of the Peabody Education Board on secondary education; the evolution of high school inspection by the State Department of Education; the impetus added to secondary education in Alabama by the assistance rendered by the General Education Board, etc.

English Instruction in the University High School. By EDITH E. SHEPHERD, HAROLD A. ANDERSON, RUSSELL THOMAS, GLADYS CAMPBELL, AND ARTHUR E. TRAXLER with the co-operation of R. L. LYMAN. Chicago: The University of Chicago, 1933. Pp. iii + 178.

This book gives an interesting and stimulating review of the major aims and purposes of English instruction in the University High School of the University of Chicago. It is a valuable addition to the library of the teacher of English. E. N. S.

Standards for Elementary School Buildings. By GEORGE G. STRAYER AND N. L. ENGELHARDT. New York: Teachers College, Columbia University, 1933. Pp. v + 181.

This volume is a revised and more complete treatment of the content in a former volume by the same authors. It is probably the best single volume on school building standards to date. R. L. H.

The Custody of School Funds. By FRED F. BEACH. Teachers College, Columbia, University, 1933. Pp. x + 159.

This study is a general investigation and appraisal of the systems of school-fund custody as they function in the United States, a detailed examination of the custody of school funds in New York State, and a recommended custodial system. H. D. W.

Skyscraper. By ELSA H. NAUMBURG, CLARA LAMBERT, LUCY SPRAGUE MITCHELL. New York: The John Day Company, 1933. Pp. 80.

A book treating in a non-technical way the history and erection of skyscrapers as a distinctly American type of architecture. Contains seventy actual photographs of the modern skyscraper under construction accompanied by verse and exposition.

U. W. L.